

Application No. 10/671,219

IN THE CLAIMS:

Please cancel claims 2, 4, and 5 without prejudice or disclaimer and amend claims 1, 3, and 6-8 as follows:

1. (Amended) A treatment liquid supply system comprising:

a treatment liquid tank that stores treatment liquid therein ~~with the treatment liquid tank being air-tightly closed~~ and is capable of being closed in an air-tight condition;

a nozzle connected to the treatment liquid tank through a treatment liquid supply pipe, ~~wherein the nozzle vacuum-sucks and injects~~ the nozzle being configured to vacuum-draw the treatment liquid in from the treatment liquid tank and to jet the treatment liquid due to vacuum occurring in the nozzle caused by supplying pressurized air from outside of the nozzle thereto;

an air suction device branched in the vicinity of the nozzle from the treatment liquid supply pipe and connected to an upper side of the treatment liquid tank, ~~wherein the air suction device generates~~ generating vacuum in the treatment liquid tank by sucking drawing in air in within an inner space thereof; and

a positive pressure supply device that supplies a positive pressure gas at a desired pressure to a vacuum space as formed in the inner space of the treatment liquid tank, ~~wherein flow supply of the treatment liquid to the nozzle is controlled based upon a difference between the vacuum in the nozzle and pressure in the vacuum space adjusted by the positive pressure gas supplied to the treatment liquid tank by the positive pressure supply device ; and~~

a pressure control device disposed between the positive pressure supply device and the treatment liquid tank to adjust the pressure of the positive pressure gas supplied to the treatment liquid tank by measuring a mass of the flow amount of the positive pressure gas;

wherein the treatment liquid supply system further comprises

Application No. 10/671,219

a first opening and closing valve (V2) disposed midway of the treatment liquid supply pipe to open and close a supply passage to the nozzle;

a second opening and closing valve (V3) disposed on a portion of the air suction device to open and close a fluid line communicating with the treatment liquid tank; and

a third opening and closing valve (V4) disposed on a portion of the positive pressure supply device to open and close a positive pressure supply line connected to the treatment liquid tank;

wherein the first and third opening and closing valves (V2 and V4) are initially closed to provide an air-tight condition within the treatment liquid tank while opening the second opening and closing valve (V3) during supply of pressurized air to the nozzle to generate a vacuum within the nozzle, thereby permitting the vacuum to prevail in the inner space of the treatment liquid tank;

wherein the second opening and closing valve (V3) is subsequently closed while simultaneously opening the first opening and closing valve (V2) during supply of the pressurized air to the nozzle for permitting a vacuum to be generated in the nozzle which is equal to the vacuum in the inner space of the treatment liquid tank; and

wherein the third opening and closing valve (V4) is thereafter opened to regulate the flow amount of the positive pressure gas supplied to the treatment liquid tank in proportion to the mass of the flow amount thereof, so that supply of the treatment liquid from the treatment liquid tank to the nozzle is adjustably minutely controlled based on a difference between the vacuum prevailing within the inner space of the treatment liquid tank and that prevailing in the nozzle.

2. Cancelled.

Application No. 10/671,219

3. (Amended) A treatment liquid supply system according to claim 2 1, wherein the pressure control device comprises: a mass flow controller ~~that adjusts a flow amount of the positive pressure gas by measuring a mass of the flow amount thereof.~~

4. Cancelled.

5. Cancelled

6. (Amended) A treatment liquid supply system according to claim 1, further comprising:

a wash liquid tank for storing a wash liquid for washing the treatment liquid tank and the nozzle and capable of being closed in an air-tight condition and connected to an upper surface of the treatment liquid tank, wherein a the wash liquid is sucked drawn from the wash liquid tank due to the vacuum occurring in the nozzle to wash the treatment liquid tank and the nozzle inner space of the treatment liquid tank and supplied to the inside of the treatment liquid tank.

7. (Amended) A treatment liquid supply system according to claim 1, further comprising:

a wash liquid tank connected to the nozzle, said wash liquid tank storing a wash liquid for washing only the nozzle and capable of being closed in an air-tight condition wherein a the wash liquid is sucked drawn from the wash liquid tank due to the vacuum occurring in the nozzle and supplied to the nozzle to wash only the nozzle.

8. (Amended) A treatment liquid supply system comprising:

~~a treatment liquid tank that stores treatment liquid therein with the treatment liquid tank being air-tightly closed;~~

~~a treatment liquid supply device that supplies treatment liquid to the treatment liquid tank;~~

Application No. 10/671,219

a first treatment liquid supply pipe that connects the treatment liquid supply device to the treatment liquid tank to supply the treatment liquid thereto;

a first valve disposed in the first treatment liquid supply pipe to open and close connection between the treatment liquid supply device and the treatment liquid tank;

a nozzle that injects the treatment liquid supplied from the treatment liquid tank;

a second treatment liquid supply pipe that connects the treatment liquid tank to the nozzle to supply the treatment liquid to the nozzle;

a second valve disposed in the second treatment liquid pipe to open and close connection between the treatment liquid tank and the nozzle;

a pressurized-air-supply device connected to the nozzle wherein the nozzle vacuum-sucks and injects the treatment liquid in the treatment liquid tank due to vacuum occurring in the nozzle caused by supplying pressurized air from the pressurized-air-supply device to the nozzle;

an air suction device an end of which is connected in the vicinity of the nozzle to the second treatment liquid supply pipe and another end of which is connected to an upper side of the treatment liquid tank wherein the air suction device supplies the vacuum occurring in the nozzle to an inner space in the treatment liquid tank;

a third valve disposed in the air suction device to open and close connection between the upper side of the treatment liquid tank and the nozzle;

a positive pressure supply device that supplies a positive pressure gas at a desired pressure to a vacuum space as formed in the inner space of the treatment liquid tank;

a pressure control device disposed between the positive pressure supply device and the treatment liquid tank to adjust pressure of the positive pressure gas supplied to the treatment liquid tank; and

Application No. 10/671,219

~~a fourth valve disposed between the treatment liquid tank and the pressure control device to open and close connection therebetween, wherein~~ according to claim 1, wherein the treatment liquid tank, the nozzle, the supply pipes and the opening and closing valves are integrally formed as a single member.